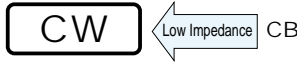


# ALUMINUM ELECTROLYTIC CAPACITORS

**CW** Chip Type, Low Impedance, Long Life Assurance series



- Chip type with load life of 7000 hours at +105°C. Low impedance temperature range up to +105°C.
- Applicable to automatic mounting machine fed with carrier tape.
- Compliant to the RoHS directive (2002/95/EC).

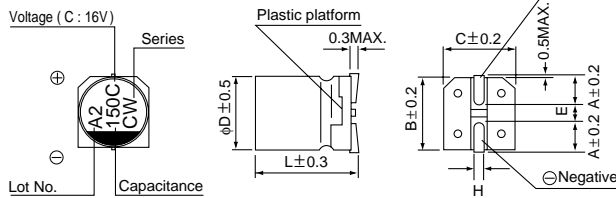


## Specifications

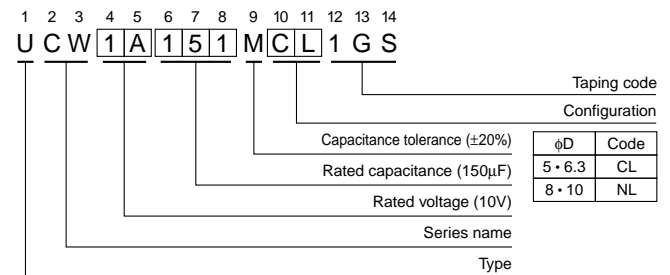
Item	Performance Characteristics																								
Category Temperature Range	-25 to +105°C																								
Rated Voltage Range	6.3 to 50V																								
Rated Capacitance Range	10 to 470μF																								
Capacitance Tolerance	±20% at 120Hz, 20°C																								
Leakage Current	After 2 minutes' application of rated voltage, leakage current is not more than 0.01 CV or 3 (μA) , whichever is greater.																								
Tangent of loss angle (tan δ)	Measurement frequency : 120Hz at 20°C																								
	Rated voltage (V)	6.3	10	16	25	35	50																		
Stability at Low Temperature	Measurement frequency : 120Hz																								
	Impedance ratio ZT / Z20 (MAX.)	Z-25°C / Z+20°C	4	3	2	2	2																		
Endurance	The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 7000 hours at 105°C.		<table border="1"> <tr> <td>Capacitance change</td> <td colspan="5">Within ±30% of the initial capacitance value</td> </tr> <tr> <td>tan δ</td> <td colspan="5">300% or less than the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td colspan="5">Less than or equal to the initial specified value</td> </tr> </table>					Capacitance change	Within ±30% of the initial capacitance value					tan δ	300% or less than the initial specified value					Leakage current	Less than or equal to the initial specified value				
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tan δ	300% or less than the initial specified value																								
Leakage current	Less than or equal to the initial specified value																								
Shelf Life	After storing the capacitors under no load at 105°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above.																								
Resistance to soldering heat	The capacitors are kept on a hot plate for 30 seconds, which is maintained at 250°C. The capacitors shall meet the characteristic requirements listed at right when they are removed from the plate and restored to 20°C.		<table border="1"> <tr> <td>Capacitance change</td> <td colspan="5">Within ±10% of the initial capacitance value</td> </tr> <tr> <td>tan δ</td> <td colspan="5">Less than or equal to the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td colspan="5">Less than or equal to the initial specified value</td> </tr> </table>					Capacitance change	Within ±10% of the initial capacitance value					tan δ	Less than or equal to the initial specified value					Leakage current	Less than or equal to the initial specified value				
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tan δ	Less than or equal to the initial specified value																								
Leakage current	Less than or equal to the initial specified value																								
Marking	Black print on the case top.																								

## Chip Type

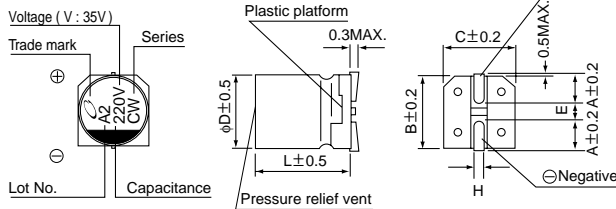
(φ5 to φ6.3)



## Type numbering system (Example : 10V 150μF)



(φ8 to φ10)



(mm)

φD × L	5 × 7	6.3 × 7	6.3 × 8.7	8 × 10	10 × 10
A	2.1	2.4	2.4	2.9	3.2
B	5.3	6.6	6.6	8.3	10.3
C	5.3	6.6	6.6	8.3	10.3
E	1.3	2.2	2.2	3.1	4.5
L	7.0	7.0	8.7	10	10
H	0.5 to 0.8	0.5 to 0.8	0.5 to 0.8	0.8 to 1.1	0.8 to 1.1

Voltage

V	6.3	10	16	25	35	50
Code	j	A	C	E	V	H

● Dimension table in next page.



## ■ Dimensions

Cap. ( $\mu$ F)	V Code	6.3			10			16			25			35			50		
		0J			1A			1C			1E			1V			1H		
10	100													5×7	2.2	95			
22	220							5×7	2.2	95	5×7	2.2	95	5×7	2.2	95			
33	330				5×7	2.2	95				6.3×7	1.1	140	6.3×8.7	1.0	230			
47	470	5×7	2.2	95				6.3×7	1.1	140	6.3×7	1.1	140	6.3×8.7	1.0	230	8×10	0.53	350
100	101	6.3×7	1.1	140				6.3×7	1.1	140	6.3×8.7	1.0	230				8×10	0.53	350
150	151				6.3×7	1.1	140	6.3×8.7	1.0	230									
220	221	6.3×8.7	1.0	230				6.3×8.7	1.0	230	8×10	0.22	600	8×10	0.22	600	10×10	0.35	670
330	331	6.3×8.7	1.0	230				8×10	0.22	600	8×10	0.22	600	10×10	0.16	850			
470	471	8×10	0.22	600				8×10	0.22	600	10×10	0.16	850						

Max. impedance ( $\Omega$ ) at 20°C 100kHz,  
 Rated ripple current (mA<sub>rms</sub>) at 105°C 100kHz

## ● Frequency coefficient of rated ripple current

Frequency	50 Hz	120 Hz	300 Hz	1 kHz	10 kHz or more
Coefficient	0.35	0.50	0.64	0.83	1.00

- Taping specifications are given in page 23.
- Recommended land size, soldering by reflow are given in page 18, 19.
- Please refer to page 3 for the minimum order quantity.